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THE IRRATIONALITY OF WAR

ON SCIENCE AS AN ELEMENT IN THE DEVELOPING OF INTERNATIONAL GOOD WILL AND UNDERSTANDING

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BY

SIR OLIVER JOSEPH LODGE

Principal of Birmingham University

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The Executive Committee of the Association for International Conciliation wish to arouse the interest of the American people in the progress of the movement for promoting international peace and relations of comity and good fellowship between nations. To this end they print and circulate documents giving information as to the progress of these movements, in order that individual citizens, the newspaper press, and organizations of various kinds may have readily available accurate information on these subjects. A list of publications will be found on page 15.

It was with great pleasure that the Association received from the distinguished Principal of Birmingham University an acceptance of its invitation to contribute to its series of pamphlets. Sir Oliver Lodge is one of the most eminent living men of science, having been the recipient of the Rumford Medal and of honorary degrees from Cambridge, Glasgow, St. Andrews, Aberdeen, and Oxford Universities. Most of his work has been in the field of Physics, but he is also interested in the ultimate problems of life, and his published works include not only books on Modern Views of Electricity and the Ether of Space, but upon Life and Matter and The Survival of Man.

THE IRRATIONALITY OF WAR

ON SCIENCE AS AN ELEMENT IN THE DEVELOPING OF INTERNATIONAL GOOD WILL AND UNDERSTANDING

Humanity is a race of workers, and on its output of energy the well being of the planet now largely depends. The work of the human race is directed towards

(1) Sustenance,

(2) Advancement;

and on the whole the work is conducted at high pressure and there is little margin to spare. The more energy that has to be expended on mere existence the less is available for progress and development. Consequently it is in moderately fertile countries and peaceful times that the greatest steps in Art and Science have been made. When existence is threatened there is neither time nor opportunity for advance.

Humanity works in sections, and it is possible for these sections to quarrel and to seek to injure or destroy each other; thereby interfering with each other's bare subsistence, and taking attention off higher things. It is notorious that in such disputes much energy can be unprofitably consumed, or, more accurately, degraded; and also that even if there is no active quarrel between two sections, still the possibility of it

entails severe preparation and anxiety and much unprofitable caution and disabling fear. So it used to be at one time between families, then between tribes, and now between nations; yet the sub-division of the Race into nations, with differing facilities and a variety of customs and traditions, ought to have a beneficent influence as well as add greatly to the interest of life. So long as the sections co-operate and mutually help each other, all is well: each benefits by the discoveries and advances of the rest, and a valuable spirit of Emulation is aroused. But when emulation degenerates from wholesome rivalry into a spirit of envy, hatred, malice, and all uncharitableness, so that the sections wage an internecine conflict, then the warring among the members is a calamitous evil, and humanity as a whole is bound to suffer.

Science a Cosmopolitan Enterprise

In some departments of civilised life the risk of unwholesome and mutually destructive contest is more rife than in others. Certain fields of labour there are in which the spirit of rivalry never now degenerates into hostility and mistrust. These are the cosmopolitan enterprises and labours to which every nation can contribute, and in the results of which every nation can share. Of all these cosmopolitan efforts those included under the general head Science are among the chief. Literature is more of a National product, the literature of one nation necessarily appeals less forcibly to another nation; alien language is a bar to

complete enjoyment. But scientific discovery can be made at once interesting, can be assimilated and its fruits reaped by all. Any discovery made by a group or by an individual becomes thereafter the property of humanity, and the world is advanced a step higher. And, short of catastrophe, such a discovery is made for ever: it is not liable to decay like a picture or a statue; it is in the spirit, so to speak, it is not incarnate. Many discoveries are not only world wide but cosmic, and if ever we are able to communicate with another planet they could be appreciated there too. This is especially the case in such subjects as Mathematics, Physics, and Chemistry, and is probably true of a great part of Biology also. These great fundamental sciences are cosmic in their scope and significance. These and all other sciences are at least international. Science tends to weld the nations together; and even though petty jealousies and personal rivalries exist for a time, they seldom survive a generation: they are felt to be unworthy and unseemly, and the successful worker sooner or later meets with a world-wide appreciation.

The Labor and Problems of Peace Times

But it needs all the energy, all the spirit, all the encouragement that can be given, to pursue this work; the labour of peace times is indeed strenuous, the problems to be solved demand the keenest intelligence, the most indomitable patience; and they represent a strain on the highest powers of a nation. To produce

a Helmholtz or a Kelvin is a demand on national vigour,—a feeble nation cannot as a rule produce great men. Appreciation also is necessary, and appreciation from other nations is especially welcome and is usually forthcoming; it is a sign and token of civilisation when such is the case; and the fact of appreciation reacts with especial benefit and stimulus on the otherwise solitary worker. For such a man must be in advance of his contemporaries, and yet must not be too hopelessly and utterly beyond the appreciation of them all; the career of a great genius becomes well nigh impossible when the general standard is low. To cultivate science therefore demands high qualities and strong character, it is a task of difficulty; whereas to rush into a quarrel and fight is easy enough. A savage in this art is an adept. No demand is made on selfcontrol, no lofty national spirit is needed in order to fall into a misunderstanding or to feel the pangs of envy and of greed. And yet it is in the encouragement of this facile mood that the greatest national enthusiasm and Patriotism are felt, merely because the condition recurs at intervals, like an appetite; whereas the steady strain of work for the common good excites no enthusiasm, calls forth no encouragement, and but little recognition or praise. Smooth indeed is the path to a quarrel, easy is the descent to war, night and day the gates stand open; but to take up again the works of peace, to climb the steep ascent of Science, that is the burden, that the toil.

Nevertheless it is often claimed that high qualities are demanded by modern warfare; and the claim is well founded. Qualities of mind and body are indeed evoked by it, and the nobler the nature the more can it respond to the demand, when the special call comes. That is what is asserted, and that is surely true; but this is only one aspect of the universal struggle for existence, it is a natural result of all corporate effort towards a common end: such qualities should be called out by every kind of emulation between nations; and would be, if only the pressure were occasional and episodical instead of constant and steady. Use and wont seem to blunt the feelings, and sap the energy, of the average man. But it is not a different set of qualities that are needed in war, it is the same qualities raised to incandescence by the momentary burst of national feeling. For how are high faculties stimulated by war? Not by the mere killing,—the killing is an episode, almost an accident: the actual fighting is a small part of a campaign. The rage to kill may have a survival value, but it is rapidly becoming obsolete: there is no real lust of slaughter in modern warfare, it is regarded as a grim inevitable necessity. Modern fighting is mostly done by machinery,—especially naval fighting. No personal animosity lies behind it; skill and prowess are evoked, but it is engineering skill and the prowess born of peaceful practice and essays of sport.

The effort is akin to those which lead to success in games. One essential element of ancient human warfare is absent from any modern battle; there is no hate, often no vision, of the foe. Triggers are pulled, or guns fired, and unseen distant men drop; and this may continue till a battle is won, but the triumph is due to the inventive skill that has devised the instruments and the organisation that has brought them to the right place at the right time. Modern warfare is a great organisation—a great industrial organisation,—it involves transport, complex machinery, supplies of food and clothing, and many another peace necessity. All these arrangements and faculties and powers are called for and trained and developed in times of peace. Wars are not now won, as they used to be, by extermination, but by successful management and organisation; and ultimate victory is largely dependent on the pertinacious power of the purse. It was not so in old times, when men fought face to face and used their muscles to give blows. Then the feelings cultivated by Christianity were in abeyance, then the wounded were slain, non-combatants were rigorously dealt with; then there might be war to extermination. Those were the logical and rational times, so far as war is concerned. Killing was a savage business, and was appropriately conducted in a savage manner. Now the whole outlook has changed, and the rationality of war has departed; we fight by machinery and industrial organisation. Scientific ingenuity devises constantly new apparatus, and skilled

manufacturers execute it. A battleship is a scientific laboratory. Thus Science is applied to an alien use—a use which would have to be stigmatised as unholy were it not that in the present unhappy state of European civilisation these things are essential to defence.

The power to produce ingenious things and use them is excellent; the gratuitous bringing about of catastrophes by their means is diabolic. That is what war does: it brings about, on purpose, disasters which in peace we regard with special abhorrence,—destruction of crops, railway accidents, shipwrecks, explosions, wounds, and violent deaths. The nations are naturally horrified at what they are doing, even while they are still at war; and they send surgeons and nurses to repair the damage done, even to the enemy, as quickly and as painlessly as possible.

Opportunities for Peaceful Emulation

Then why should we continue our rivalry into this illogical and brutal extremity? The only excuse that can be made is that our ancestors did it. But our ancestors had no other way of competing; practically they only came into contact with foreign nations for the sake of bloodshed and plunder. But engineering progress has made travel and international intercourse easy, and we can go abroad now with more facility than they could then travel across England. Language is still a barrier, and is responsible for many misunderstandings, but in all essentials it is easy now to be

on friendly terms with every civilised nation. We trade together, we study the same problems, and encounter the same natural difficulties. In thousands of ways we can help each other, in one way and one way alone can we do each other serious damage. Exertion is good, and fighting is strenuous exertion, but why not fight now solely by means of organisation and enterprise and scientific skill and ingenuity? Why not show emulation and high spirit in the various industries and arts of peace? Why destroy and ravage the property of humanity? Why should one section seek to destroy another, when all can co-operate together for the common good, and when all are members of a common brotherhood, so that if one is injured all suffer? Why not give to humanity the benefit of the whole combined enterprise and the conjoined cultivated skill; why not discourage the artificially-fostered and quite impersonal hate, and omit the too successful and unmeaning butchery? If the end sought were extermination, war would be intelligible, though in these days of mutual interests and commerce, to kill off your customers is surely unwise. But when the nations are working hand in hand in scientific discovery and invention, as well as in Arts and Crafts of every kind, when they recognise each other's good work with real enthusiasm, and hand each other medals and dine together and feel friendly and rejoice in each other's progress,—then suddenly to reverse this attitude, at the bidding of a few frenzied newspaper-writers, and convert the weapons

which scientific investigation has made possible into engines of desolation and slaughter—that is monstrous and detestable.

The Brotherhood of Science

Fortunately there is hope in the prospect before us; the craftsmen of every land are finding out that their interests are common, they are beginning to realise that it is madness to seek to destroy and ruin each other. The educated people, and especially the men of Science, have long known this. By interchange of periodicals, by frequent international visits, by the action of great Societies, and by making use everywhere of all knowledge wherever it be acquired, they have long practically realised the solidarity of humanity; and, in spite of such political hostilities as are forced upon their notice, their attitude to all co-workers is necessarily and essentially one of fellow-feeling, sympathy, mutual admiration, and brotherhood. No warlike enthusiasm is needed, no alien excitement is called for, to break the monotony of scientific work. In work such as this there is no monotony: excitement and thrill are provided by the prospect of a discovery. There is plenty of room also for effort and strenuous exertion. There are dangers too to be encountered, dangers of disease and accident,—witness the self-sacrifice of many an investigator, whether he be a geographical explorer, or an X-ray worker, or a student of tropical disease. There is very little monotonous toil, though there is much

steady work. An eruption of barbarism would be no relief, it would be a discord, an interruption as painful and perturbing as an earthquake.

It is the deadly monotony of the ordinary life of the multitude that constitutes a civic, a national, danger. It is this that drives people to drink and unworthy relaxation. It is this that makes people welcome the feverish excitement of a catastrophe or of the imminence of war. It is this which is responsible for much of the gambling that goes on. The deadly monotony must be broken, daily life must be made more interesting, work more joyous, human nature must be given a fair chance of equable development. The nation which first realises the magnitude of the opportunity afforded by earth existence, and the responsibility resting upon those who co-operatively waste it in the mere apparatus and material of bodily life, the nation which by social reform liberates the spirit of humanity,—that nation will arouse in its citizens a fervour of patriotism hitherto unknown, and to it will belong, not by military conquest but by divine right, the supremacy of the future and the gratitude of the human race.

OLIVER LODGE.

UNIVERSITY OF BIRMINGHAM
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LIST OF PUBLICATIONS

Nos. 1–50, inclusive (April, 1907–January, 1912). Including papers by Baron d'Estournelles de Constant, George Trumbull Ladd, Elihu Root, Barrett Wendell, Charles E. Jefferson, Seth Low, William James, Andrew Carnegie, Philander C. Knox, Pope Pius X, Heinrich Lammasch, and others. A list of titles and authors will be sent on application.

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